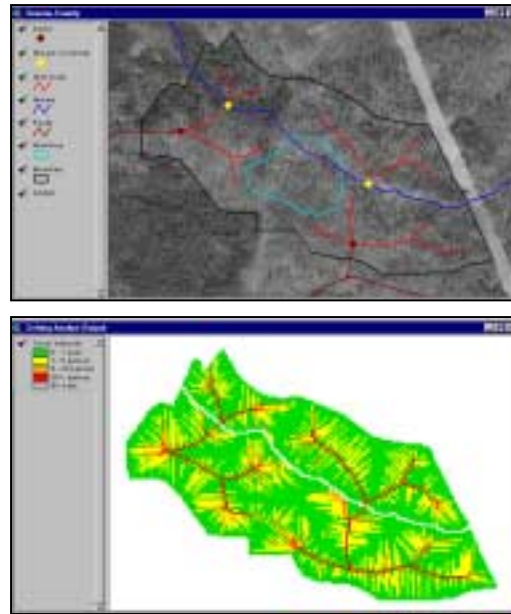


Computer-aided Planning of Ground-based Timber Harvesting

Issue: Tactical or operational planning of non-industrial forest harvests in the southern USA has not been widely used in the past due to relatively easy logging conditions, non-regulatory BMP-based water quality protection, and a general lack of state forest practices acts. Increased government regulation and market pressures to document sustainable forest management on private lands will likely increase the need for tactical planning on private, non-industrial timber sales. This project is an initial investigation into Geographic Information Systems (GIS) based procedures to assist planners of harvesting operations.



Study Description: A planning tool, “Setting Analyst”, is being developed in the ArcView GIS environment. The tool allows the comparison of different settings (layouts) based on logging costs and site disturbance. The user locates logging decks, skid trails, roads and stream crossings. Average skidding distances (ASD) are calculated for different setting configurations. Travel intensity is assessed since it is highly correlated to site disturbance and soil compaction. Emphasis placed on simple models and readily available information for planners dealing with non-industrial private forestlands.

Status: Currently refining tool. Plan to conduct comparative trials of ten recently harvested tracts. Presented one poster. One presentation scheduled for November 2000.

Benefits:

- *Promote harvest planning and aid decision-making on non-industrial forestlands.*
- *Allow comparison of alternative harvesting settings based on economic and site disturbance evaluations. Not a replacement for fieldwork.*
- *ArcView extension hence portable and integrated with popular GIS software.*
- *Simple model using information commonly available for sales of this nature.*

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